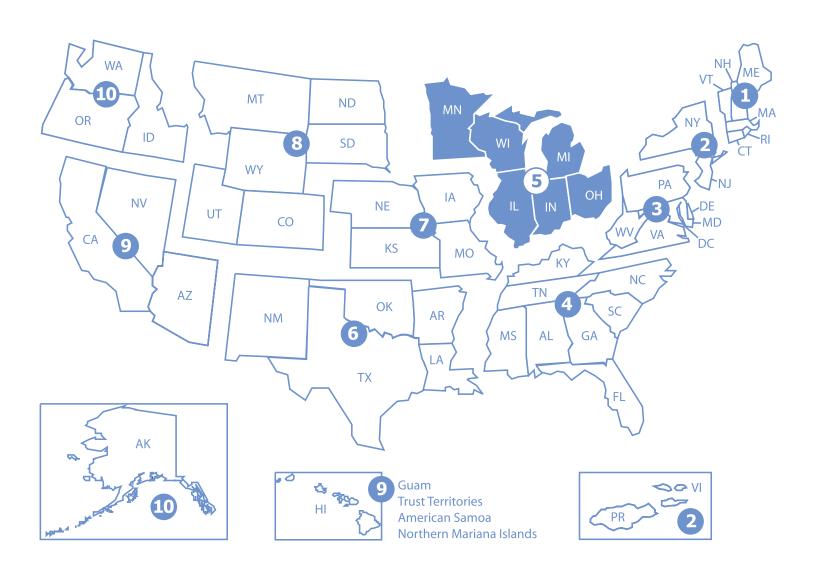


Office of Solid Waste and Emergency Response

Support Document for the Revised National Priorities List Final Rule – Eagle Zinc Co Div T L Diamond



Support Document for the Revised National Priorities List Final Rule – Eagle Zinc Co Div T L Diamond September 2007

State, Tribal, and Site Identification Center
Office of Solid Waste and Emergency Response
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EXECUTIVE SUMMARY

Section 105(a)(8)(B) of CERCLA, as amended by SARA, requires that the EPA prepare a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States. An original National Priorities List (NPL) was promulgated on September 8, 1983 (48 FR 40658). CERCLA also requires the EPA to update the list at least annually.

This document provides responses to public comments received on the Eagle Zinc Co Div T L Diamond site in Hillsboro, Illinois, proposed on March 7, 2007 (72 FR 10105). This site is being added to the NPL based on an evaluation under the Hazard Ranking System (HRS) in a final rule published in the *Federal Register* in September 2007. Several additional sites are being promulgated concurrently.

INTRODUCTION

This document explains the rationale for adding the Eagle Zinc Co Div T L Diamond site in Hillsboro, Illinois, to the NPL of uncontrolled hazardous waste sites and also provides the responses to public comments received on this site. The EPA proposed this site on March 7, 2007 (72 FR 10105). This site is being added to the NPL based on an evaluation under the HRS in a final rule published in the *Federal Register* in September 2007.

Background of the NPL

In 1980, Congress enacted CERCLA, 42 U.S.C. Sections 9601 *et seq.* in response to the dangers of uncontrolled hazardous waste sites. CERCLA was amended on October 17, 1986, by SARA, Public Law No. 99-499, stat., 1613 *et seq.* To implement CERCLA, EPA promulgated the revised National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 40 CFR Part 300, on July 16, 1982 (47 FR 31180), pursuant to CERCLA Section 105 and Executive Order 12316 (46 FR 42237, August 20, 1981). The NCP, further revised by EPA on September 16, 1985 (50 FR 37624) and November 20, 1985 (50 FR 47912), sets forth guidelines and procedures needed to respond under CERCLA to releases and threatened releases of hazardous substances, pollutants, or contaminants. On March 8, 1990 (55 FR 8666), EPA further revised the NCP in response to SARA.

Section 105(a)(8)(A) of CERCLA, as amended by SARA, requires that the NCP include

criteria for determining priorities among releases or threatened releases throughout the United States for the purpose of taking remedial action and, to the extent practicable, take into account the potential urgency of such action, for the purpose of taking removal action.

Removal action involves cleanup or other actions that are taken in response to emergency conditions or on a short-term or temporary basis (CERCLA Section 101(23)). Remedial action tends to be long-term in nature and involves response actions that are consistent with a permanent remedy for a release (CERCLA Section 101(24)). Criteria for placing sites on the NPL, which makes them eligible for remedial actions financed by the Trust Fund established under CERCLA, were included in the HRS, which EPA promulgated as Appendix A of the NCP (47 FR 31219, July 16, 1982). On December 14, 1990 (56 FR 51532), EPA promulgated revisions to the HRS in response to SARA, and established the effective date for the HRS revisions as March 15, 1991.

Section 105(a)(8)(B) of CERCLA, as amended, requires that the statutory criteria provided by the HRS be used to prepare a list of national priorities among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States. The list, which is Appendix B of the NCP, is the NPL.

An original NPL of 406 sites was promulgated on September 8, 1983 (48 FR 40658). At that time, an HRS score of 28.5 was established as the cutoff for listing because it yielded an initial NPL of at least 400 sites, as suggested by CERCLA. The NPL has been expanded several times since then, most recently on March 7, 2007 (72 FR 10105). The Agency also has published a number of proposed rulemakings to add sites to the NPL. The most recent proposal was also on March 7, 2007 (72 FR 10105).

Development of the NPL

The primary purpose of the NPL is stated in the legislative history of CERCLA (Report of the Committee on Environment and Public Works, Senate Report No. 96-848, 96th Cong., 2d Sess. 60 [1980]):

The priority list serves primarily informational purposes, identifying for the States and the public those facilities and sites or other releases which appear to warrant remedial actions. Inclusion of a facility or site on the list does not in itself reflect a judgment of the activities of its owner or operator, it does not require those persons to undertake any action, nor does it assign liability to any person. Subsequent government actions will be necessary in order to do so, and these actions will be attended by all appropriate procedural safeguards.

The purpose of the NPL, therefore, is primarily to serve as an informational and management tool. The identification of a site for the NPL is intended primarily to guide EPA in determining which sites warrant further investigation to assess the nature and extent of the human health and environmental risks associated with the site and to determine what CERCLA-financed remedial action(s), if any, may be appropriate. The NPL also serves to notify the public of sites EPA believes warrant further investigation. Finally, listing a site may, to the extent potentially responsible parties are identifiable at the time of listing, serve as notice to such parties that the Agency may initiate CERCLA-financed remedial action.

CERCLA Section 105(a)(8)(B) directs EPA to list priority sites among the known releases or threatened release of hazardous substances, pollutants, or contaminants, and Section 105(a)(8)(A) directs EPA to consider certain enumerated and other appropriate factors in doing so. Thus, as a matter of policy, EPA has the discretion not to use CERCLA to respond to certain types of releases. Where other authorities exist, placing sites on the NPL for possible remedial action under CERCLA may not be appropriate. Therefore, EPA has chosen not to place certain types of sites on the NPL even though CERCLA does not exclude such action. If, however, the Agency later determines that sites not listed as a matter of policy are not being properly responded to, the Agency may consider placing them on the NPL.

Hazard Ranking System

The HRS is the principle mechanism EPA uses to place uncontrolled waste sites on the NPL. It is a numerically based screening system that uses information from initial, limited investigations -- the preliminary assessment and site inspection -- to assess the relative potential of sites to pose a threat to human health or the environment. HRS scores, however, do not determine the sequence in which EPA funds remedial response actions, because the information collected to develop HRS scores is not sufficient in itself to determine either the extent of contamination or the appropriate response for a particular site. Moreover, the sites with the highest scores do not necessarily come to the Agency's attention first, so that addressing sites strictly on the basis of ranking would in some cases require stopping work at sites where it was already underway. Thus, EPA relies on further, more detailed studies in the remedial investigation/feasibility study that typically follows listing.

The HRS uses a structured value analysis approach to scoring sites. This approach assigns numerical values to factors that relate to or indicate risk, based on conditions at the site. The factors are grouped into three categories. Each category has a maximum value. The categories include:

- likelihood that a site has released or has the potential to release hazardous substances into the environment:
- Characteristics of the waste (toxicity and waste quantity); and
- people or sensitive environments (targets) affected by the release.

Under the HRS, four pathways can be scored for one or more threats:

- Ground Water Migration (S_{gw})
 - drinking water
- Surface Water Migration (S_{sw})

These threats are evaluated for two separate migration components (overland/flood and ground water to surface water).

- drinking water
- human food chain
- sensitive environments
- Soil Exposure (S_s)
 - resident population
 - nearby population
 - sensitive environments
- Air Migration (S_a)
 - population
 - sensitive environments

After scores are calculated for one or more pathways according to prescribed guidelines, they are combined using the following root-mean-square equation to determine the overall site score (S), which ranges from 0 to 100:

$$S = \sqrt{\frac{S_{gw}^2 + S_{sw}^2 + S_s^2 + S_a^2}{4}}$$

If all pathway scores are low, the HRS score is low. However, the HRS score can be relatively high even if only one pathway score is high. This is an important requirement for HRS scoring because some extremely dangerous sites pose threats through only one pathway. For example, buried leaking drums of hazardous substances can contaminate drinking water wells, but -- if the drums are buried deep enough and the substances not very volatile -- not surface water or air.

Other Mechanisms for Listing

Aside from the HRS, there are two other mechanisms by which sites can be placed on the NPL. The first of these mechanisms, authorized by the NCP at 40 CFR 300.425(c)(2), allows each State and Territory to designate one site as its highest priority regardless of score.

The last mechanism, authorized by the NCP at 40 CFR 300.425(c)(3), allows listing a site if it meets all three

of these requirements:

- Agency for Toxic Substances and Disease Registry (ATSDR) of the U.S. Public Health Service has issued a health advisory that recommends dissociation of individuals from the release;
- DEPA determines the site poses a significant threat to public health; and
- EPA anticipates it will be more cost-effective to use its remedial authority than to use its emergency removal authority to respond to the site.

Organization of this Document

The following section addresses site-specific public comments. The site discussion begins with a list of commenters, followed by a site description, a summary of comments, and Agency responses. A concluding statement indicates the effect of the comments on the HRS score for the site.

Glossary

RCRA

amended)

The following acronyms and abbreviations are used throughout the text:

Agency	U.S. Environmental Protection Agency
ATSDR CERCLA	Agency for Toxic Substances and Disease Registry Comprehensive Environmental Response, Compensation, and Liability Act of 1980, 42 U.S.C. Sections 9601 <i>et seq.</i> , also known as Superfund
EPA	U.S. Environmental Protection Agency
HRS	Hazard Ranking System, Appendix A of the National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300
HRS Score	Overall site score calculated using the Hazard Ranking System; ranges from $0\ \mathrm{to}$ 100
NCP	National Oil and Hazardous Substances Pollution Contingency Plan, 40 C.F.R. Part 300
NPL	National Priorities List, Appendix B of the NCP
NPL-###	Public comment index numbers as recorded in the Superfund Docket in EPA Headquarters and in Regional offices
PA/SI	Preliminary Assessment/Site Inspection
PRP	Potentially Responsible Party

Resource Conservation and Recovery Act of 1976 (U.S.C. 9601-6991, as

RD/RA Remedial Design/Remedial Action

RI/FS Remedial Investigation/Feasibility Study

ROD Record of Decision, explaining the CERCLA-funded cleanup alternative(s) to be

used at an NPL site

SARA Superfund Amendments and Reauthorization Act of 1986, Public Law No. 99-

499, stat., 1613 et seq

Region 5 - Eagle Zinc Co Div T L Diamond, Hillsboro, Illinois

1. List of Commenters/Correspondents

SFUND-2007-0074-0005 Comment dated May 4, 2007, from John M. Ix, Counsel, Dechert LLP on behalf of T.L. Diamond & Company, Inc.

SFUND-2007-0074-0006 Comment dated May 2, 2007, from Joseph Schmidl, P.G., Weston Solutions Inc. on behalf of The Sherwin-Williams Company

SFUND-2007-0074-0003 Correspondence dated October 6, 2005, from Rod R. Blagojevich, Governor of the State of Illinois

2. Site Description

The Eagle Zinc Div of T L Diamond Site (Eagle Zinc or Site) is located generally on the west side of Industrial Park Drive south of Smith Road in Hillsboro, Montgomery County, Illinois. The main source comprises a shallow slag pile which covers approximately 430,626.8 square feet or approximately 9.88 acres. Samples collected from the shallow slag pile indicated that it contains elevated concentrations of several metals, including arsenic, cadmium, chromium, copper, lead, nickel, silver and zinc. As indicated in the original HRS documentation record (pp. 21–22), a number of other potential environmental concerns that may warrant investigation are present at the Site as well. The Site is part of a larger property that encompasses approximately 132 acres, of which approximately 26 acres are currently occupied by structures. Eagle Zinc is located approximately 3,330 feet from Lake Hillsboro and has been previously investigated separately under State programs and the Superfund program.

The site was scored based on the surface water migration pathway. The land surface at the site has been altered due to on-site operations, but, in general, is relatively flat. Due to the presence of slag materials throughout the site, precipitation collects in low areas on the site or runs off into an unnamed tributary located at the north side of the property. The unnamed tributary flows east under Industrial Park Drive and meanders to the northeast where it enters Lake Hillsboro approximately 3,330 feet from the property. A sample collected in the sediment of the lake was found to contain elevated levels of the same metals as were found in the shallow slag pile (e.g., cadmium, lead, and zinc), indicating that Lake Hillsboro is being impacted by the former waste handling activities at the site. The human food chain threat was also scored because the State of Illinois identifies Lake Hillsboro as a fishery.

3. Summary of Comments and Correspondence

The Honorable Rod R. Blagojevich, Governor of Illinois, expressed support for the listing of the Eagle Zinc Co Div T L Diamond (Eagle Zinc) on the National Priorities List (NPL), because the evaluation of this site indicates that "past operating and disposal practices have resulted in uncontrolled releases of hazardous substances to the environment and surrounding community that pose unacceptable risks to human health and the environment."

Two commenters, Mr. John Ix, on behalf of T. L. Diamond & Company, Inc. (hereafter referred to as Diamond), and Mr. Joseph Schmidl, on behalf of The Sherwin-Williams Company (hereafter referred to as SHW) wrote to correct or clarify information within the HRS documentation record. These comments do not question the validity of the Hazard Ranking System score and do not specifically oppose

placement of the site on the NPL. Mr. Ix claimed the risk was less than indicated by the HRS documentation record, and wanted certain actions by Diamond mentioned in the record. Mr. Schmidl wanted the record changed to indicate SHW operated the facility for less than one year.

3.1 Support for Listing

The Honorable Rod R. Blagojevich, Governor of Illinois, expressed support for the listing of Eagle Zinc on the NPL.

In response, the Agency has added Eagle Zinc Co Div T L Diamond site to the NPL. Listing makes a site eligible for remedial action funding under CERCLA, and EPA will examine the site to determine the appropriate response action(s). Actual funding may not necessarily be undertaken in the precise order of HRS scores, however, and upon more detailed investigation may not be necessary at all in some cases. EPA will determine the need for using Superfund monies for remedial activities on a site-by-site basis, taking into account site risks, State priorities, further site investigation, other response alternatives, and other factors as appropriate.

3.2 Site History

SHW made a comment requesting a clarification or correction of a statement regarding the Site History and the time in which SHW owned and operated the Site. Diamond made several comments regarding Site History, pointing out additional reports and documents which were generated pursuant to EPA oversight, and other actions taken by Diamond at the Site that were not discussed in the HRS documentation record. These comments are addressed in the following subsections.

3.2.1 Site Ownership and Operation

SHW commented that the HRS documentation record (pp. 14–15) is incorrect when it states that SHW "operated the Site [for four years from 1980] to 1984." The commenter then points to a December 2001 Administrative Order by Consent (AOC) for the Eagle Zinc Site that includes a finding that SHW owned the site during that entire period. The commenter also cites HRS reference 12 that "[a]ccording to Sherwin-Williams personnel, Sherwin-Williams conducted manufacturing operations for a period of less than one year." In response, the Agency acknowledges that SHW owned the property from approximately 1980 to 1984.

SHW also asks for correction of related statements in References 4, 8, 45, and 47, which were published in 1996, 2005, 1989, and 1993, respectively. In response, these are historical documents prepared by Illinois EPA and Ms. Dorothy Bliss of Hillsboro, Illinois, prior to the publication of the HRS documentation record, and it would not be necessary or appropriate to require that they be modified at this time.

This comment does not request, and does not result in, a change in the site score. The HRS does not focus on parties' potential liability or lack thereof. Further, placement of a site on the NPL does not create, establish, or assign liability to any party. Liability and financial responsibility are addressed in a different phase of the Superfund process. If SHW wishes to submit additional supporting information regarding the period of time of their manufacturing operations, the Agency can consider this information at any time during the Superfund process, usually following listing and completion of further investigation.

3.2.2 Facility History and Additional Work Performed with EPA Oversight

Diamond commented that the facility history description in the HRS documentation record (pp. 14–15) fails to identify that Diamond and other potentially responsible parties (PRPs) identified by EPA have conducted a Remedial Investigation (RI) and Feasibility Study (FS) pursuant to an Administrative Order by Consent dated December 31, 2001, with EPA oversight. Diamond further commented that it screened residues, generated during its ownership of the site as well as some generated by previous owners, to separate out fines. According to Diamond, the resulting zinc and carbon rich fines were sold as product, thereby reducing the amount and toxicity of residue at the site. As of August 9, 2000, Diamond reports that it had sold 16,895 tons of fines and re-used 4,470 tons of fines. In addition, Diamond states that it arranged for the removal from the site of approximately 2,500 tons of muffle dross/zinc skims and approximately 3,800 pounds of barium-containing materials from prior owners' operations. Diamond thus comments that the HRS Documentation Record overstates the risk posed by the Site.

In response, EPA acknowledges the PRPs' preparation of the RI and FS documents, proceeding even in advance of NPL listing. EPA appreciates this action, but it has no effect on the site score.

EPA also acknowledges that, like SHW, Diamond, engaged in some historical waste management reduction activities at the Site. This also has no effect on the site score, as explained below.

Consistent with the HRS and as documented by the HRS documentation record at proposal, the contamination at Eagle Zinc poses sufficient relative threat and results in a sufficiently high HRS score to warrant site placement on the NPL. This finding is based upon analytical data from 2005 as presented in Sections 2.2, Source Characterization, and 4.1.2.1.1, Observed Release, of the HRS documentation record. These data were gathered in 2005, well after the waste management reduction activities in 2000 undertaken by Diamond. It is unclear whether these actions undertaken by Diamond years before would represent a removal or simply normal waste management reduction practices, but even if they could be considered a removal, they would not change the site score. The actions undertaken by Diamond occurred years before EPA's 2005 assessment, and EPA based its assessment on the 2005 current property conditions; hence any actions occurring prior to the assessment were taken into account in the site score. It is important to note that going back to study the situation prior to Diamond's actions would not lower the site score, because the materials Diamond claimed to have separated out and sold would allow EPA to assign the value from Table 2-6 with or without the consideration of the removal action either the value of 100 or the value from Table 2-6, whichever is greater (HRS rule, Section 2.4.2.2, p. 51592). In this case the change in waste quantity would have no impact. The shallow waste pile has a source hazardous waste quantity value of 33,125.1, which equates to a hazardous waste quantity factor value of 10,000 (See HRS documentation record Sections 2.4.2.1.4, 2.4.2.1.5, 2.4.2.2 and 4.1.3.2.2). If the HRS site score were to include the disposal activity waste quantity in the source hazardous waste quantity value, the hazardous waste quantity value would increase to greater than 33,125.1, but it would not increase the hazardous waste quantity factor value to 1,000,000, which the quantity would have to be before there would be any change to the final HRS site score.

This comment did not specifically seek, and did not result in, a change in the site score.

3.3 Other Possible Pathways

Diamond commented that the HRS documentation record cover sheet stated that there was insufficient

documentation to analyze the soil exposure pathway, air migration pathway, and ground water migration pathway. Diamond contends that this statement is not accurate and that it ignores the analysis contained in (1) the Human Health Risk Assessment, August 2004, prepared by Environ International Corporation; (2) the Ecological Risk Screening Evaluation, August 2004, prepared by Environ International Corporation; and (3) the Addendum to Remedial Investigation Report, February 2006, prepared by Environ International Corporation.

In response, EPA focused its documentation record on the surface water pathway for the Eagle Zinc site, using appropriate sampling information. The surface water pathway posed a significant threat and there was sufficient information to readily and properly document and score the surface water pathway.

While EPA may attempt to score all pathways that pose significant threats, there is no requirement either in CERCLA or in the HRS that the Agency evaluate all possible pathways of exposure when it considers whether or not to add a site to the NPL. In fact, considering that the HRS is a screening tool to identify, as expeditiously and economically as possible, those sites that appear to merit additional investigation and possible remediation, it may not be appropriate to expend the additional time and funds to document all possible threats at a site.

Indeed, EPA typically does not delay listing to incorporate all information, if the listing decision would not be affected. In light of the information gathered and presented on the surface water pathway, Eagle Zinc scores 50 from the surface water pathway. By evaluating all possible pathways of exposure, the Site score might increase to greater than 50, but this would not change the listing decision. Therefore, EPA could choose to include only a brief qualitative discussion of other pathways to present a more complete picture of the conditions and hazards at the site. The statement in the HRS documentation record cover sheet should not be interpreted to state that detailed documentation on other pathways could not have been compiled.

These comments do not request, and do not result in, a change in the site score. The information gathered through RI/FS activities goes to further identify the nature and extent of potential risks presented by the observed releases and potential threats that support NPL listing. EPA will consider these other pathways during further characterization following listing.

3.4 Other References

Diamond commented that additional documents generated during the Remedial Investigation pursuant to EPA oversight were not included in the reference section of the HRS documentation record (pp. 7–10).

In response, EPA attempted to use all appropriate documents when considering whether to list the Eagle Zinc site. This comment does not seek and does not result in a change to the site score. These additional documents further support Site characterization and quantify Site risks. These documents do not change the current conditions of the Site or whether Eagle Zinc poses sufficient relative threat to warrant placement on the NPL. EPA will consider these other documents following listing.

3.5 Surface Water Migration Pathway

Diamond commented that the HRS documentation record (pp. 23–31) ignored the existence of and conclusions made in the Human Health Risk Assessment, August 2004, prepared by Environ International Corporation pursuant to EPA oversight. Diamond claimed, in particular, that the HRS documentation record ignored that the concentrations of cadmium (16.1 mg/kg), lead (142 mg/kg), and zinc (8,120

mg/kg) detected in Illinois EPA sediment sample X210 are far below the EPA Region 3 Risk Based Concentrations for residential properties.

In response to the claim that the HRS documentation record ignores the existence of and conclusions made in the Human Health Risk Assessment, this comment does not result in a change in the site score. The HRS does not quantify risk. The Human Health Risk Assessment does not change the current conditions of the Site or whether Eagle Zinc poses sufficient relative threat to warrant placement on the NPL. EPA will consider this information during the Superfund process, usually following listing.

In response to the HRS documentation record ignoring the concentrations of cadmium, lead, and zinc, there are two aspects of the score in which sample X210 was needed. The first was to document an observed release. Section 2.3 of the HRS, *Likelihood of release*, provides the minimum standard for establishing an observed release. Table 2-3 of the HRS, *Observed Release Criteria for Chemical Analysis*, states in relevant part that:

An observed release is established as follows:

If the background concentration is not detected (or is less than the detection limit), an observed release is established when the sample measurement equals or exceeds the sample quantitation limit.

If the background concentration equals or exceeds the detection limit, an observed release is established when the sample measurement is 3 times or more above the background concentration.

The HRS documentation record for the Eagle Zinc site (pp. 24–25) identifies sample X210 in Lake Hillsboro containing CERCLA hazardous substances at concentrations three times background, and the background concentration is greater than the detection limit. Hence, there is an observed release. The EPA Region 3 Risk Based Concentrations for residential properties go to the evaluation of potential response actions and the scope of necessary investigation activities which have been occurring at the Site, rather than to the NPL listing decision. These comments therefore do not result in a change in the site score.

The second use of the sample was to determine the type of threat the release documented in sample X210 posed to the environment (pp. 27–31 of the HRS documentation record). The contaminants were released into a fishery and the threat was to human food chain individuals who were eating the fish. Thus, the HRS site score reflects the relative threat not to the residential properties but to the fish and humans eating the fish, and thus the EPA Region 3 Risk Based Concentrations for residential properties are inappropriate for this purpose as well. This comment does not result in a change in the site score because there is an observed release from Eagle Zinc and Eagle Zinc poses sufficient relative threat to warrant placement on the NPL.

3.6 NPL Site Narrative

Diamond commented that like the HRS documentation record, the NPL Site Narrative fails to identify waste disposal activities taken by Diamond and fails to consider and report the results of the Remedial Investigation, including the Human Health Risk Assessment, August 2004.

In response, the NPL Site Narrative is a one page fact sheet which summarizes information from the HRS documentation record. EPA has modified the site narrative for this final rule to mention the response actions taken by Diamond. This comment does not seek and does not result in a change in the site score.

4. Conclusion

The original HRS score for this site was 50.00. Based on the above response to comments, the score remains unchanged. The final scores for the Eagle Zinc Co Div of T L Diamond site are:

Ground Water: Not Scored Surface Water: 100.00 Soil Exposure: Not Scored Air: Not Scored HRS Score: 50.00